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PTO/SB/21 (09-04)

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TRANSMITTAL FORM (to be used for all correspondence after initial filing)	Application Number	10/748,354	
	Filing Date	12/30/2003	
	First Named Inventor	MOSS, Richard L.	
	Art Unit	N/A	
	Examiner Name	Unknown	
Total Number of Pages in This Submission	554	Attorney Docket Number	054030-0045

ENCLOSURES (Check all that apply)		
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<input type="checkbox"/> Fee Attached	<input type="checkbox"/> Licensing-related Papers	<input type="checkbox"/> Appeal Communication to Board of Appeals and Interferences
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<input type="checkbox"/> After Final	<input type="checkbox"/> Petition to Convert to a Provisional Application	<input type="checkbox"/> Proprietary Information
<input type="checkbox"/> Affidavits/declaration(s)	<input type="checkbox"/> Power of Attorney, Revocation	<input type="checkbox"/> Status Letter
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Date	10-21-04	Reg. No.	50,343

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PTO/SB/17 (10-04v2)

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FEE TRANSMITTAL for FY 2005

Effective 10/01/2004. Patent fees are subject to annual revision.

☒ Applicant claims small entity status. See 37 CFR 1.27

TOTAL AMOUNT OF PAYMENT (\$) 0.00

Complete if Known

Application Number	10/748,354
Filing Date	12/30/2003
First Named Inventor	MOSS, Richard L.
Examiner Name	Unknown
Art Unit	N/A
Attorney Docket No.	054030-0045

METHOD OF PAYMENT (check all that apply)☐ Check ☐ Credit card ☐ Money Order ☐ Other ☐ None☒ Deposit Account:

Deposit Account Number 07-1509

Deposit Account Name Godfrey & Kahn, S.C.

The Director is authorized to: (check all that apply)

☐ Charge fee(s) indicated below ☒ Credit any overpayments☒ Charge any additional fee(s) or any underpayment of fee(s)☐ Charge fee(s) indicated below, except for the filing fee to the above-identified deposit account.**FEE CALCULATION****1. BASIC FILING FEE**

Large Entity		Small Entity		Fee Description	Fee Paid
Fee Code (\$)	Fee (\$)	Fee Code (\$)	Fee (\$)		
1001	790	2001	395	Utility filing fee	
1002	350	2002	175	Design filing fee	
1003	550	2003	275	Plant filing fee	
1004	790	2004	395	Reissue filing fee	
1005	160	2005	80	Provisional filing fee	
SUBTOTAL (1)				(\$)	

2. EXTRA CLAIM FEES FOR UTILITY AND REISSUE

	Extra Claims	Fee from below	Fee Paid
Total Claims	-20** =	X	
Independent Claims	-3** =	X	
Multiple Dependent			

Large Entity		Small Entity		Fee Description
Fee Code (\$)	Fee (\$)	Fee Code (\$)	Fee (\$)	
1202	18	2202	9	Claims in excess of 20
1201	88	2201	44	Independent claims in excess of 3
1203	300	2203	150	Multiple dependent claim, if not paid
1204	88	2204	44	** Reissue independent claims over original patent
1205	18	2205	9	** Reissue claims in excess of 20 and over original patent
SUBTOTAL (2)				(\$)

**or number previously paid, if greater; For Reissues, see above

FEE CALCULATION (continued)**3. ADDITIONAL FEES**

Large Entity Small Entity

Fee Code (\$)	Fee (\$)	Fee Code (\$)	Fee (\$)	Fee Description	Fee Paid
1051	130	2051	65	Surcharge - late filing fee or oath	
1052	50	2052	25	Surcharge - late provisional filing fee or cover sheet	
1053	130	1053	130	Non-English specification	
1812	2,520	1812	2,520	For filing a request for ex parte reexamination	
1804	920*	1804	920*	Requesting publication of SIR prior to Examiner action	
1805	1,840*	1805	1,840*	Requesting publication of SIR after Examiner action	
1251	110	2251	55	Extension for reply within first month	
1252	430	2252	215	Extension for reply within second month	
1253	980	2253	490	Extension for reply within third month	
1254	1,530	2254	765	Extension for reply within fourth month	
1255	2,080	2255	1,040	Extension for reply within fifth month	
1401	340	2401	170	Notice of Appeal	
1402	340	2402	170	Filing a brief in support of an appeal	
1403	300	2403	150	Request for oral hearing	
1451	1,510	1451	1,510	Petition to institute a public use proceeding	
1452	110	2452	55	Petition to revive - unavoidable	
1453	1,370	2453	685	Petition to revive - unintentional	
1501	1,370	2501	685	Utility issue fee (or reissue)	
1502	490	2502	245	Design issue fee	
1503	660	2503	330	Plant issue fee	
1460	130	1460	130	Petitions to the Commissioner	
1807	50	1807	50	Processing fee under 37 CFR 1.17(q)	
1806	180	1806	180	Submission of Information Disclosure Stmt	
8021	40	8021	40	Recording each patent assignment per property (times number of properties)	
1809	790	2809	395	Filing a submission after final rejection (37 CFR 1.129(a))	
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1801	790	2801	395	Request for Continued Examination (RCE)	
1802	900	1802	900	Request for expedited examination of a design application	

Other fee (specify)

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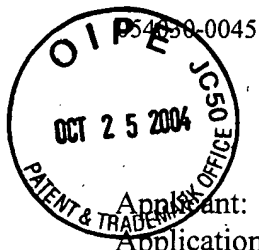
Name (Print/Type)	Charles L. Leeck	Registration No. (Attorney/Agent)	50,343	Telephone	414-273-3500
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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant: Richard L. Moss, et al.
Application No.: 10/748,354
For: TRANSGENIC MODEL FOR MYOCARDIAL FUNCTION
Filed: December 30, 2003
Group Art Unit: N/A
Examiner: Unknown
Attorney Docket No.: 054030-0045

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INFORMATION DISCLOSURE STATEMENT

Dear Sir:

In accordance with 37 C.F.R. §§ 1.56, 1.97, and 1.98, the Applicant submits the references listed below for consideration.

Non-Patent References:

- BAUER, C.B., Holden, H.M., Thoden, J.B., Smith, R., and Rayment, I., (2000). X-ray structures of the Apo and MgATP-bound states of Dictyostelium discoideum myosin motor domain. J. Biol. Chem. 275, 38494-38499
- BERNSTEIN, S.I., and Milligan, R.A. (1997). Fine tuning a molecular motor: The location of alternative domains in the Drosophila myosin head. J. Mol. Biol. 271, 1-6
- DOMINGUEZ, R., Freyzon, Y., Trybus, K.M., and Cohen, C. (1998). Crystal structure of a vertebrate smooth muscle myosin motor domain and its complex with the essential light chain: visualization of the pre-power stroke state. Cell 94, 559-571
- FISHER, A.J., Smith, C.A., Thoden, J.B., Smith, R., Sutoh, K., Holden, H.M. and Rayment, I. (1995). X-ray structures of the myosin motor domain of Dictyostelium discoideum complexed with MgADP•BeFx and MgADP•AlF₄⁻. Biochemistry 34, 8960-8972

- GEEVES, M.A., and Holmes, K.C. (1999). Structural mechanism of muscle contraction. *Ann. Rev. Biochem.* 68, 687-728
- GULICK, A.M. and Rayment, I. (1997). Structural studies on myosin II: communication between distant protein domains. *Bioassays* 19, 561-569
- HOUDUSSE, A. and Cohen, C. (1996). Structure of the regulatory domain of scallop myosin at 2 Å resolution: implications for regulation. *Structure* 4, 21-32
- HOUDUSSE, A., Kalabokis, V.N., Himmel, D., Szent-Gyorgyi, A.G. and Cohen, C. (1999). Atomic structure of Scallop Myosin Subfragment S1 Complexed with MgADP: A Novel Conformation of the Myosin Head. *Cell* 97, 459-470
- KAMBARA, T., Rhodes, T.E., Ikebe, R., Yamashita, M., White, H.D., and Ikebe, M. (1999). Functional significance of the conserved residues in the flexible hinge region of the myosin motor domain. *J. Biol. Chem.* 274, 16400-16406
- JOHNSON, K.A. and Taylor, E.W. (1978). The intermediate states of subfragment 1 and acto-subfragment 1 ATPase- a reevaluation of the mechanism. *Biochemistry* 17, 3432-3442
- RAYMENT, I., Rypniewski, W.R., Schmidt-Base, K., Smith, R., Tomchick, D.R., Benning, M.M., Winkelmann, D.A., Wesenberg, G., and Holden, H.M. (1993). Three-dimensional structure of myosin sub-fragment-1: a molecular motor. *Science* 261, 50-58
- ROVNER, A.S., Freyzon, Y., and Trybus, K.M. (1997). An insert in the motor domain determines the functional properties of expressed smooth muscle myosin isoforms J. *Muscle Res. Cell Motil.* 18, 103-110
- SANT'ANA PEREIRA, J.A.A., Pavlov, D., Nili, M., Greaser, M., Homsher, E. and Moss, R.L. (2001). Kinetic differences in myosins with identical loop 1 sequences. *J. Biol. Chem.* 276, 4409-4415
- STRANG, K., Sweitzer, N.K., Greaser, M.L., and Moss, R.L. (1994). *Circ. Res.* 74, 542-549
- SWEENEY, H.L., Rosenfeld, S.S., Brown, F., Faust, L., Smith, J., Xing, J., Stein, L.A., and Sellers, J. (1998). Kinetic tuning of myosin via a flexible loop adjacent to the nucleotide binding pocket. *J. Biol. Chem.* 273, 6262-6270
- SCHIAFFINO, S. & Reggiani, C. (1996). *Physiol. Rev.* 76, 371-423
- SANT'ANA PEREIRA, J.A.A., Wessels, A., Nijtmans, L., Moorman, A. & Sargeant, A.J. (1995). *J. Mus. Res. Cell Motil.* 16, 21-34

- ALPERT, N.R. and L.A. Mulieri (1981). Heat, mechanics and myosin ATPase in normal and hypertrophied heart muscle. *Fed Proc* 41:192-198
- ANDERSON, P.A.W., N.N. Malouf, A.E. Oakeley, E.D. Pagani and P.D. Allen (1991). Troponin T isoform expression in humans. A comparison among normal and failing adult heart, fetal heart, and adult and fetal skeletal muscle. *Circ Res* 69:1226-1233
- BERMAN, M.R., C.C. Lord and D.W. Maughan (1988). Force transient time course in heart muscle with high and low V1 V3 myosin isoenzyme ratio. *J Mol Cell Cardiol* 20:679-687
- BONNE, G., L. Carrier, P. Richard, B. Hainque and K. Schwartz (1998). Familial hypertrophic cardiomyopathy: from mutations to functional defects. *Circ Res* 83:580-593
- BOTTINELLI, R., R. Betto, S. Schiaffino and C. Reggiani (1994). Unloaded shortening velocity and myosin heavy chain and alkali light chain isoform composition in rat skeletal muscle fibres. *J Physiol* 481:663-675
- BUCK, S.H., P.J. Konyn, J. Palermo, J. Robbins and R.L. Moss (1999). Altered kinetics of contraction of mouse atrial myocytes expressing ventricular myosin regulatory light chain. *Am J Physiol* 276:H1167-H1171
- CHEN, J., S.W. Kubalak, M. Susumu, K.D. Becker, R. Hickey, J. Ross Jr. and K.R. Chien (1998). Unique requirement of myosin light chain-2v in heart function and morphogenesis. *J Biol Chem* 273:1252-1256
- CHIZZONITE, R.A., A.W. Everett, W.A. Clark, S. Jakovcic, M. Rabinowitz, and R. Zak (1982). Isolation and characterization of two molecular variants of myosin heavy chain from rabbit ventricle. *J Biol Chem* 257:2056-65
- COVIELLO, D.A., R. Bottinelli, A. Trojani, E. Panucci, M.R. Iascone, R. Bertorelli, P. Spinto, C. Autore, A. Biagini, C., Reggiani and F. Ajmar (1997). Molecular and functional analysis of mutant sarcomeric gene responsible for familial hypertrophic cardiomyopathy. *Am J Human Genet* 61:A329
- deTOMBE, P.P. (1998). Altered contractile function in heart failure. *Cardiovasc Res* 37:367-380
- DIFFEE, G.M., J.R. Patel, F.C. Reinach, M.L. Greaser and R.L. Moss (1996). Altered kinetics of contraction in skeletal muscle fibers containing a mutant myosin regulatory light chain with reduced divalent cation binding. *Biophys J* 71:341-350
- FENTZKE, R.C., S.H. Buck, J.R. Patel, H. Lin, R.J. Solaro, R.L. Moss, and J.M. Leiden (1999). Impaired cardiomyocyte relaxation and diastolic function in transgenic mice expressing slow skeletal troponin I in the heart. *J Physiol* 517:143-157


- FITZSIMONS, D.P., J.R. Patel and R.L. Moss (1998). Role of myosin heavy chain composition on kinetics of force development and relaxation in rat myocardium. *J Physiol* 513:171-183
- GEISTERFER-LOWRANCE, A.A.T., M. Christe, D.A. Conner, J.S. Ingwall, F.J. Schoen, C.E. Seidman and J.G. Seidman (1996). A mouse model of familial hypertrophic cardiomyopathy. *Science* 272:731-734
- GULICK, J., T.E. Hewett, R. Klevitsky, S.H. Buck, R.L. Moss, and J. Robbins (1997). Transgenic remodeling of the regulatory myosin light chains in mammalian heart. *Circ Res* 80:655-664
- HOMSHER, E., D.M. Lee, C. Morris, D. Pavlov and L.S. Tobacman (2000). Regulation of force and unloaded sliding speed in single thin filaments: effects of regulatory proteins and calcium. *J Physiol* 524:233-243
- HUANG, X.P., Y.Q. Pi, K.J. Lee, A.S. Henkel, R.G. Gregg, P.A. Powers and J.W. Walker (1999). Cardiac troponin I gene knock-out: A mouse model of myocardial troponin I deficiency. *Circ Res* 84:1-8
- JONES, W.K., I.L. Grupp, T. Doetschman, G. Grupp, H. Osinska, T.E. Hewett, G. Boivin, J. Gulick, W.A. Ng and J. Robbins (1996). Ablation of the murine α myosin heavy chain gene leads to dosage effects and functional deficits in the heart. *J Clin Invest* 98:1906-1917
- KELLEY, C., M. Takahashi, J.H. Yu and R. Adelstein (1993). An insert of seven amino acids confers functional differences between smooth muscle myosins from the intestines and vasculature. *J Biol Chem* 268:12848-12854
- LOWEY, S., G.S. Waller and K.M. Trybus (1993). Skeletal muscle myosin light chains are essential for physiological speeds of shortening. *Nature* 365:454-456
- LYONS, G.E., S. Schiaffino, D. Sassoon, P. Barton and M. Buckingham (1990). Developmental regulation of myosin gene expression in mouse cardiac muscle. *J Cell Biol* 111:2427-2436
- McDONALD, K.S., M.R. Wolff and R.L. Moss (1998). Force-velocity and power-load curves in rat skinned cardiac myocytes. *J Physiol* 511:519-531
- MERCADIER, J.J., A.M. Lompre, C. Wisnewsky, J.L. Samuel, J. Bercovici, B. Swynghedauw and K. Schwartz (1981). Myosin isoenzymic changes in several models of rat cardiac hypertrophy. *Circ Res* 49:525-532
- MIYATA, S., W. Minobe, M.R. Bristow and L.A. Leinwand (2000). Myosin heavy chain isoform expression in the failing and nonfailing human heart. *Circ Res* 86:386-390
- MORKIN, E. (1993). Regulation of myosin heavy chain genes in the heart. *Circulation* 87:1451-1460

- NG, W.A., I.L. Grupp, A. Subramaniam and J Robbins (1991). Cardiac myosin heavy chain mRNA expression and myocardial function in the mouse heart. *Circ Res* 69:1742-1750
- PAWLOSKI-DAHM, C.M., G. Song, D.L. Kirkpatrick, J. Palermo, J. Gulick, G.W. Dorn, J. Robbins and R.A. Walsh (1998). Effects of total replacement of atrial myosin light chain-2 with the ventricular isoform in atrial myocytes of transgenic mice. *Circulation* 97:1508-1513
- SANT'ANA PEREIRA, J.A.A., S. Ennion, A.J. Sargeant, A.F.M. Moorman and G. Goldspink (1997). Comparison of the molecular, antigenic and ATPase determinants of fast myosin heavy chains in rat and human: a single fibre study. *Eur J Physiol* 435:151-163
- SIEMANKOWSKI, R.F., M.O. Wiseman and H.D. White. (1985). ADP dissociation from acto-S1 is sufficiently slow to limit unloaded shortening velocity in muscle. *J Biol Chem* 260:658-662
- SWEENEY, H.L., M.J. Kushmerick, K. Mabuchi, J. Gergely and F.A. Sreter (1986). Velocity of shortening and myosin isoenzymes in two types of rabbit fast-twitch muscles. *Am J Physiol* 251:C431-C434
- SWEENEY, H.L., M.J. Kushmerick, K. Mabuchi, F.A. Sreter and J. Gergely (1988). Myosin alkali light chain and heavy chain variations correlate with altered shortening velocity of isolated skeletal muscle fibers. *J Biol Chem* 263: 9034-9039
- SWEENEY, H.L., S.S. Rosenfeld, F. Brown, L. Faust, J. Smith, J. Xing, L.A. Stein and J.R. Sellers (1998). Kinetic tuning of myosin via a flexible loop adjacent to the nucleotide binding pocket. *J Biol Chem* 273:6262-70
- VanBUREN, P., D.E. Harris, N.R. Alpert and D.M. Warshaw (1995). Cardiac V1 and V3 myosins differ in their hydrolytic and mechanical activities in vitro. *Circ Res* 77:439-444
- VanBUREN, P., G.S. Waller, D.E. Harris, K.M. Trybus, D.M. Warshaw and S. Lowey (1994). The essential light chain is required for full force production by skeletal muscle myosin. *Proc Natl Acad Sci* 91:12403-12407
- WOLSKA, B., R. Keller, C. Evans, K. Palmiter, R. Phillips, M. Muthuchamy, J. Oehlenschlaeger, D. Wieczorek, P., deTombe and R.J. Solaro (1999). Correlation between myofilament response to Ca²⁺ and altered dynamics of contraction and relaxation in transgenic cardiac cells that express β -tropomyosin. *Circ Res* 84:745-51

Respectfully Submitted,

GODFREY & KAHN, S.C.

Dated: 10-21-04

By: 
Charles L. Leeck
Registration No. 50,343

Attorney of Record for the Applicant
GODFREY & KAHN, S.C.
780 North Water Street
Milwaukee, WI 53202-35590
(414) 273-3500
MW848412_1.DOC



PTO/SB/08B (08-03)

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INFORMATION DISCLOSURE STATEMENT BY APPLICANT

(Use as many sheets as necessary)

Complete if Known

Application Number	10/748,354
Filing Date	12/30/2003
First Named Inventor	MOSS, Richard L.
Art Unit	N/A
Examiner Name	Unknown
Attorney Docket Number	054030-0045

Sheet 1 of 6

NON PATENT LITERATURE DOCUMENTS

Examiner Initials*	Cite No. ¹	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	T ²
		BAUER, C.B. et al. 2000. J. Biol. Chem. 275, 38494-38499	
		BERNSTEIN, S.I. et al. 1997. J. Mol. Biol. 271, 1-6	
		DOMINGUEZ, R. et al. 1998. Cell 94, 559-571	
		FISHER, A.J. et al. 1995. Biochemistry 34, 8960-8972	
		GEEVES, M.A. et al. 1999. Ann. Rev. Biochem. 68, 687-728	
		GULICK, A.M. et al. 1997. Bioassays 19, 561-569	
		HOUDUSSE, A. et al. 1996. Structure 4, 21-32	
		HOUDUSSE, A. et al. 1999. Cell 97, 459-470	
		KAMBARA, T. et al. 1999. J. Biol. Chem. 274, 16400-16406	
		JOHNSON, K.A. et al. 1978. Biochemistry 17, 3432-3442	

Examiner Signature	Date Considered
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*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

¹ Applicant's unique citation designation number (optional). ² Applicant is to place a check mark here if English language Translation is attached.

This collection of information is required by 37 CFR 1.98. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 2 hours to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO:

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Substitute for form 1449/PTO INFORMATION DISCLOSURE STATEMENT BY APPLICANT <i>(Use as many sheets as necessary)</i>		Complete if Known			
		Application Number	10/748,354		
		Filing Date	12/30/2003		
		First Named Inventor	MOSS, Richard L.		
		Art Unit	N/A		
		Examiner Name	Unknown		
Sheet	2	of	6	Attorney Docket Number	054030-0045

NON PATENT LITERATURE DOCUMENTS			
Examiner Initials*	Cite No. ¹	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	T ²
		RAYMENT, I. et al. 1993. Science 261, 50-58	
		ROVNER, A.S. et al. 1997. J. Muscle Res. Cell Motil. 18, 103-110	
		SANT'ANA PEREIRA, J.A.A. et al. 2001. J. Biol. Chem. 276, 4409-4415	
		STRANG, K. et al. 1994. Circ. Res. 74, 542-549	
		SWEENEY, H.L. et al. 1998. J. Biol. Chem. 273, 6262-6270	
		SCHIAFFINO, S. et al. 1996. Physiol. Rev. 76, 371-423	
		SANT'ANA PEREIRA, J.A.A. et al. 1995. J. Mus. Res. Cell Motil. 16, 21-34	
		ALPERT, N.R. et al. 1981. Fed Proc 41:192-198	
		ANDERSON, P.A.W. et al. 1991. Circ Res 69:1226-1233	
		BERMAN, M.R. et al. 1988. J Mol Cell Cardiol 20:679-687	

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Substitute for form 1449/PTO INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Use as many sheets as necessary)		Complete if Known			
		Application Number	10/748,354		
		Filing Date	12/30/2003		
		First Named Inventor	MOSS, Richard L.		
		Art Unit	N/A		
		Examiner Name	Unknown		
Sheet	3	of	6	Attorney Docket Number	054030-0045

NON PATENT LITERATURE DOCUMENTS			
Examiner Initials*	Cite No. ¹	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	T ²
		BONNE, G. et al. 1998. Circ Res 83:580-593	
		BOTTINELLI, R. et al. 1994. J Physiol 481:663-675	
		BUCK, S.H. et al. 1999. Am J Physiol 276:H1167-H1171	
		CHEN, J. et al. 1998. J Biol Chem 273:1252-1256	
		CHIZZONITE, R.A. et al. 1982. J Biol Chem 257:2056-2065	
		COVIELLO, D.A. et al. 1997. Am J Human Genet 61:A329	
		deTOMBE, P.P. 1998. Cardiovasc Res 37:367-380	
		DIFFEE, G.M. et al. 1996. Biophys J 71:341-350	
		FENTZKE, R.C. et al. 1999. J Physiol 517:143-157	
		FITZSIMONS, D.P. et al. 1998. J Physiol 513:171-183	

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		Examiner Name	Unknown		
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		GEISTERFER-LOWRANCE, A.A.T. et al. 1996. Science 272:731-734	
		GULICK, J. et al. 1997. Circ Res 80:655-664	
		HOMSHER, E. ET AL. 2000. J Physiol 524:233-243	
		HUANG, X.P. et al. 1999. Circ Res 84:1-8	
		JONES, W.K. et al. 1996. J Clin Invest 98:1906-1917	
		KELLEY, C. et al. 1993. J Biol Chem 268:12848-12854	
		LOWEY, S. et al. 1993. Nature 365:454-456	
		LYONS, G.E. et al. 1990. J Cell Biol 111:2427-2436	
		McDONALD, K.S. et al. 1998. J Physiol 511:519-531	
		MERCADIER, J.J. et al. 1981. Circ Res 49:525-532	

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		Filing Date	12/30/2003
		First Named Inventor	MOSS, Richard L.
		Art Unit	N/A
		Examiner Name	Unknown
Sheet 5 of 6	Attorney Docket Number	054030-0045	

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		MIYATA, S. et al. 2000. Circ Res 86:386-390	
		MORKIN, E. 1993. Circulation 87:1451-1460	
		NG, W.A. et al. 1991. Circ Res 69:1742-1750	
		PAWLOSKI-DAHME, C.M. et al. 1998. Circulation 97:1508-1513	
		SANT'ANA PEREIRA, J.A.A. et al. 1997. Eur J Physiol 435:151-163	
		SIEMANKOWSKI, R.F. et al. 1985. J Biol Chem 260:658-662	
		SWEENEY, H.L. et al. 1986. Am J Physiol 251:C431-C434	
		SWEENEY, H.L. et al. 1988. J Biol Chem 263:9034-9039	
		SWEENEY, H.L. et al. 1998. J Biol Chem 273:6262-6270	
		VanBUREN, P. et al. 1995. Circ Res 77:439-444	

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**INFORMATION DISCLOSURE
STATEMENT BY APPLICANT**

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Complete if Known

Application Number	10/748,354
Filing Date	12/30/2003
First Named Inventor	MOSS, Richard L.
Art Unit	N/A
Examiner Name	Unknown
Attorney Docket Number	054030-0045

Sheet 6

of

6

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		VanBUREN, P. et al. 1994. Proc. Natl Acad Sci 91:12403-12407	
		WOLSKA, B. et al. 1999. Circ Res 84:745-751	

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